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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,298	10/23/2003	Bahram Mechanic	043481.000004	7354

7590 06/04/2007

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EXAMINER	
ROMAN, LUIS ENRIQUE	
ART UNIT	**PAPER NUMBER**
2836	

MAIL DATE	DELIVERY MODE
06/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/692,298	MECHANIC ET AL.	
	Examiner	Art Unit	
	Luis Roman	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,5 and 9-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,5 and 9-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/06/07 has been entered.

Applicant amendment filed on 03/06/07 has been entered. Accordingly claims 9-13 have been kept original, claims 1, 4-5 & 14 have been amended and claims 2-3, 6-8 & 15-34 have been cancelled. No new claims were added. It also included remarks/arguments.

Double Patenting

Claims 1, 4-5 & 9-14 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of Mechanic (US 6229682) in view of Lawrence (US 5179490).

Mechanic discloses a transient voltage surge suppressor with an LC filter and a switch between hot-neutral which opens if the surge sensed is above a threshold and switch between neutral-ground which opens when there is an excessive voltage to protect the equipment connected at the output and a capacitor between neutral-ground through a switch (Claims 1 & 2).

Mechanic does not disclose an inductive component comprising an LC filter.

Lawrence teaches an inductive element and a capacitive element between neutral-ground (Fig. 2 elements 88, 98, 96 <the examiner notes that in any electrical circuit where and inductive element [choke 88, which is basically an inductive element] and a capacitor [98, 96] are connected is obvious that the configuration determines an

LC filter. The examiner also notes that both EMI and RFI are unwanted noise, which is filtered out with passive or active filters. They are both related, the higher the frequency of RFI the higher the EMI would be because it depends on the frequency>).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mechanic transient voltage surge suppressor (TVSS) with the inductive-capacitive elements (LC filter) of Lawrence because it prevents equipment damage by interrupting it if electromagnetic interference is generated (Lawrence <Col. 2 lines 3-7>).

Applicant amendment filed on 08/02/06 has been entered. Accordingly claims 2-13, 16, 17, 19-26, 29-33 have been kept original, claims 1, 14, 15, 18, 27, 28, 34 have been amended and no claims have been cancelled. No new claims were added. It also included remarks/arguments.

Claim Objections

Claim 1 is objected to because of the last sentence **"the first in the closed position..."** should say **"the first switch in the closed position...".**
Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4 & 13-14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lawrence (US 5179490) in view of Winch et al. (US 6040969).

Regarding claim 1 Lawrence discloses a protective circuit (Fig. 2) having hot (34), neutral (36), and ground (38) leads arranged to be placed between corresponding utility hot, neutral, and ground leads of a power utility outlet of a multi-phase power distribution network and corresponding device hot, neutral, and ground leads of at least one electrical and/or electronic device (40), the protective circuit responding to abnormal power conditions incoming from the power utility outlet and reducing or eliminating ground noise or noise between the ground and neutral leads transmitted to the devices (Col. 2 lines 59-65 <the examiner notes that both EMI and RFI are unwanted noise which are filtered out with passive or active filters. They are both related, the higher the frequency of RFI the higher the EMI would be because it depends on the frequency>), the protective circuit comprising: a neutral-ground voltage surge protection/filtration circuit including at least one LC filter circuit (88, 98, 96 <the examiner notes that in any electrical circuit where and inductive element [choke 88, which is basically an inductive element] and a capacitor [98, 96] are connected is obvious that the configuration determines an LC filter>) the LC filter circuit comprising: an inductive component (88) disposed in series in the circuit ground lead (38) between the utility network (34, 36, 38) and the device (40); a capacitor (96, 98) connected between the circuit neutral (36) and circuit ground (38) leads after the inductor (88) towards the device (40), the LC filter circuit component is being adapted to reduce or eliminate ground noise or noise between ground and neutral leads transmitted to the devices (the examiner notes that both EMI and RFI are unwanted noise which are filtered out with passive or active filters. They are both related, the higher the frequency of RFI the higher the EMI would be because it depends on the frequency).

Lawrence does not specifically disclose a first relay connected between the utility network and the device; a first switch controlled by the first relay, the first relay being in an opened position when no current is flowing through the first relay, the absence of current flow in the first relay corresponding to an abnormal state of the protective circuit;

the first switch in the opened position disconnecting components of the neutral-ground voltage surge circuit; the first switch being in a closed position when current is flowing through the first relay, the presence of current flow in the first relay corresponding to a normal state of the protective circuit; the first switch in the closed position connecting the components of the neutral-ground voltage surge protection filtration circuit.

Winch et al. teaches a circuit to protract electronic equipment from EMI (Fig. 6) with a relay (34) connected between the utility network (18, 20, 22) and the device (24, 26, 28 <output where the devices are connected>); a switch (A) controlled by the relay (34), the switch being in a closed position when current is flowing through the relay, the presence of current flow in the relay corresponding to a normal state of the protective circuit; the switch in the closed position connecting the components of the neutral-ground voltage surge protection filtration circuit (Col. 15 lines 36-46), the relay being in an opened position when no current is flowing through the relay, the absence of current flow in the relay corresponding to an abnormal state of the protective circuit; the switch in the opened position disconnecting components of the neutral-ground voltage surge circuit (the switch has two states open-close, on-off).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lawrence with the relay of Winch et al. because it protects connected equipment by preventing supply system overvoltages from reaching the connected equipment (Winch et al. <Col. 24 lines 28-30).

The examiner notes that Winch et al. teaches about the EMI and RFI noises also (Col. 1 lines 16-34).

Regarding claim 4 Lawrence further discloses a circuit (Fig. 2) comprising: a hot-neutral voltage surge protection/filtration circuit component adapted to substantially reduce noise between the hot (34) and neutral (36) ends and to clamp a voltage between the leads (78), the hot-neutral voltage surge protection/filtration circuit including an LC filter circuit (84, 94, 96 <the examiner notes that in any electrical circuit where and inductive element [choke 84; which is basically an inductive element] and a capacitor [94, 96] are connected is obvious that the configuration determines an LC

filter>), comprising: an inductive component (84) disposed in series in the circuit hot lead (34) between the utility network (34, 36, 38) and the device (40); a capacitor (94, 96) connected between the hot (34) and neutral (36) leads after the inductor (84) towards the device (40), the LC filter circuit component is being adapted to reduce or eliminate ground noise or noise between hot and neutral leads transmitted to the devices (the examiner notes that both EMI and RFI are unwanted noise which are filtered out with passive or active filters. They are both related, the higher the frequency of RFI the higher the EMI would be because it depends on the frequency).

Regarding claim 13 Lawrence in view of Winch et al. discloses the protective circuit of claim 1.

Lawrence further discloses a first indicator circuit for indicating a normal state (Fig. 2 element 54), and a second indicator circuit for indicating an abnormal state (Fig. 2 element 52).

Regarding claim 14 Lawrence in view of Winch et al. discloses the protective circuit of claim 1.

Lawrence further discloses wherein the neutral-ground voltage surge protection/filtration circuit component includes a resistor (Fig. 2 elements 106, 108), an inductive element in series in the circuit ground lead (Fig. 2 element 88) and capacitors (Fig. 2 elements 96, 98) the LC filter (the examiner notes that in any electrical circuit where and inductive element <choke 88; which is basically an inductive element> and a capacitor <96, 98> are connected is obvious that the configuration determines an LC filter) being adapted to reduce or eliminate ground noise or noise between ground and neutral leads transmitted to the devices (Col. 2 lines 3-7).

Lawrence in view of Winch et al. discloses the claimed invention except for multiple LC filters. It would have been obvious to one having ordinary skills in the art at the time the invention was made to have multiple LC filters, since it has been held that mere duplication of the essential working parts of a device involves only routine skills in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

Claims 5 & 9-12 is rejected under 35 U.S.C. §103(a) as being unpatentable over Lawrence (US 5179490) in view of Winch et al. (US 6040969) and Mechanic (US 6229682).

Regarding claim 5 Lawrence in view of Winch et al. discloses the circuit of claim 4 but does not disclose a second relay connected between the utility network and the device; a second switch controlled by the second relay; the second relay being in an opened position when no current is flowing through the relay, the absence of current flow in the second relay corresponding to an abnormal state of the protective circuit (no power to the load); the switch in the opened position disconnecting components of the hot-neutral voltage surge protection/filtration circuit; the second switch being in a closed position when current ifs flowing through the second relay, the presence of current flow in the second relay corresponding to a normal state of the protective circuit; the second switch in the closed position connecting the components of the hot-neutral voltage surge protection/filtration circuit.

Mechanic teaches a transient voltage surge suppressor (TVSS)(Fig. 1) with a relay (42r) connected between the utility network (10, 12, 14) and the device (10a, 12a, 14a <output where the devices are connected>); a controlled by the relay (42k); the relay being in an opened position (situation shown in the figure) when no current is flowing through the relay, the absence of current flow in the second relay corresponding to an abnormal state of the protective circuit (no power to the load); the switch in the opened position disconnecting components of the hot-neutral voltage surge protection/filtration circuit (LC filter 41a/47 and the clamping device 45); the second switch being in a closed position when current ifs flowing through the second relay, the presence of current flow in the second relay corresponding to a normal state of the protective circuit; the second switch in the closed position connecting the components of the hot-neutral voltage surge protection/filtration circuit (the switch has two states open-close, on-off).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lawrence in view of Winch et al. with the (TVSS) of

Mechanic because it protects the load is protected from an excess voltage level between the hot and neutral leads from the power utility outlet (Mechanic <Col.2 lines 53-55>).

Regarding claim 9 Lawrence in view of Winch et al. and Mechanic discloses the protective circuit of claim 5.

Winch et al. further discloses further comprising: a voltage threshold sensing circuit adapted to detect when the voltage on the circuit hot lead exceeds a threshold value (Fig. 5 element 66), a relay supply switch (Fig. 5 element 30) for providing current to the relay circuit (Fig. 5 element 34); and an electronic switch (Fig. 5 elements Q1, Q2) responsive to the voltage threshold sensing circuit for disabling the relay supply switch allowing the relays to transition between their closed and opened conditions.

Regarding claim 10 Lawrence in view of Winch et al. and Mechanic discloses the protective circuit of claim 5.

Winch et al. further discloses comprising: a voltage threshold sensing circuit (Fig. 5 element 66) adapted to detect when the voltage between the circuit hot and neutral leads exceeds a threshold value, a relay supply switch (Fig. 5 element 30) for providing current to the relay circuit (Fig. 5 element 34); and an electronic switch (Fig. 5 elements Q1, Q2) responsive to the voltage threshold sensing circuit for disabling the relay supply switch allowing the relays to transition between their closed and opened conditions.

Regarding claim 11 Lawrence in view of Winch et al. and Mechanic discloses the protective circuit of claim 5.

Winch et al. further discloses comprising: a voltage threshold sensing circuit (Fig. 1 element 66) adapted to detect when the voltage on the circuit hot lead exceeds a threshold value; a relay supply switch for providing current to the relay circuit; an electronic switch (Fig. 5 elements Q1, Q2) responsive to the voltage threshold sensing circuit for disabling the relay supply allowing the relays to transition between their closed and opened conditions when a connection between ground leads is disconnected.

Regarding claim 12 Lawrence in view of Winch et al. and Mechanic discloses the protective circuit of claim 5.

Winch et al. further discloses comprising: a voltage threshold sensing circuit adapted to detect when the voltage on the circuit hot lead exceeds a threshold value; a relay supply switch for providing current to the relay circuit; an electronic switch responsive to the voltage threshold sensing circuit for disabling the relay supply allowing the relays to transition between their closed and opened conditions when the connection between the hot and neutral lead is reversed (col. 4 lines 36-46).

Response to Arguments

Applicant's arguments with respect to claims 1, 4, 5 & 9-14 have been considered but are moot in view of the new ground(s) of rejection.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Muelleman US 5666255, for suppression of transients on the ground (Abstract) & Fig. 14 elements 194 (inductance), 82 & 86 (capacitors) and 80 (switch) connected elements between neutral and ground.

Stolarczyk US 4912589, for surge suppression network (Abstract) & Fig. 9 elements 574 (inductance) and 592 (capacitor) connected elements between neutral and ground.

Hutchison US 5969583, for EMI filtering (Abstract) & Fig. 1 elements 114 (inductance) & 122 (capacitance) connected elements between neutral and ground.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luis E. Román whose telephone number is (571) 272-5527. The examiner can normally be reached on Mon – Fri from 7:15 AM to 3:45 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from Patent Application Information Retrieval (PAIR) system.

Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Luis E. Román
Patent Examiner
Art Unit 2836

LR/051707

5/29/07

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